

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: M. PALMER et al.

Application No.: To Be Assigned (Divisional of
09/657,264)

Group Art Unit: 2854
(Anticipated)

Filed: November 8, 2001

Examiner: Funk (Anticipated)

For: TAPE PRINTING APPARATUS
AND TAPE HOLDING CASE

Attorney Docket No.: 7310-259

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of this application, please amend the specification as follows:

IN THE SPECIFICATION:

A marked up version of the amended paragraphs in the specification, showing insertions and deletions, is included in Appendix A.

Page 1, before line 1 of text, insert

--This is a divisional of pending U.S. Serial No. 657,264, filed September 7, 2000, which is a divisional of 09/180,502 filed November 12, 1998, which is a 371 of PCT/EP97/05065, filed September 16, 1997.

Page 1, between the title and the first line of text, insert the heading

--Technical Field--.

Page 1, between lines 2 and 4, insert the heading

--Background Art--.

Page 2, between lines 21 and 23, insert the heading

--Summary of the Invention--.

Please amend the paragraph at page 2, lines 4-11 to read as follows:

--In EP-A-661163 (Smith Corona), a tape printer is used in combination with a slot-in type cassette. The printhead is pivotally fixed to the housing of the tool and interacts with a platen provided in the cassette. Since the printhead is spring biased towards the platen, it is capable of urging the cassette out of the printer, when the latches holding the cassette are released. The motor of this tape printer is located beside the cassette, but in a plane below the cassette, and is connected to the platen provided in the cassette by means of a gear train, parts of which being located below the cassette, as well.--

Please amend the paragraph at page 2, lines 18-20 to read as follows:

--US 5615960 (Alps) also discloses a tape printer in which the motor is located beside the tape supply, and most parts of the gear train are located below the tape supply.--

Please amend the paragraph at page 3, lines 23-29 to read as follows:

--It should be appreciated that in embodiments of the present invention, the surface against which the print head acts may be stationary at all times while the print head moves to cause the first and second positions to be adopted. Alternatively, the print head may be stationary while the surface moves to cause the first and second positions to be adopted. It is also possible that both print head and the surface be movably mounted. In the preferred embodiment of the present invention, the surface is substantially stationary while the print head is arranged to move.--

Please amend the single-line paragraph at page 7, line 27 to read as follows:

--Preferably, the moving means comprises an over center mechanism.--

Please amend the paragraph at page 7, line 29 to page 8, line 2 to read as follows:

--In an embodiment of the invention, there can be provided a tape printing apparatus for print on image receiving tape comprising:

means for receiving a supply of image receiving tape;

a print head for printing an image on said image receiving tape;

a surface against which said print head co-operates to print an image on said image receiving tape, said surface having a first position in which said surface acts against the print head and a second position in which the said surface is spaced apart from said print head, said surface further having a third position intermediate said first and second positions; and

moving means arranged automatically to move said surface from said third to said first position when said surface is at the third position.--

Please amend the paragraph at page 8, lines 31-34 to read as follows:

--Brief Description of the Drawing

For a better understanding of the present invention and as to how the same may be carried into effect, reference will now be made by way of example to the accompanying drawings in which:--

Please amend the paragraph at page 9, lines 30-37 to read as follows:

--Description of the Preferred Embodiments

Figure 1 shows a plan view of a tape printing apparatus 2. The tape printing apparatus 2 comprises a keyboard 4. The keyboard 4 has a plurality of data entry keys such as numbered, lettered and punctuation keys 6 for inputting data to be printed as a label and function keys 8 for editing the input data. The keyboard 4 may also have a print key 10 which is operated when it is desired that a label be printed. Additionally, an on/off key 12 is also provided for switching the tape printing apparatus on and off.--

Page 10, between lines 29 and 31, insert the heading

--Detailed Description of the Preferred Embodiment--.

Please amend the paragraph at page 10, lines 13-22 to read as follows:

--A first embodiment of the present invention will now be described with reference to Figures 2a to c, 3 and 4. These Figures show the key elements present in the cassette receiving bay 218. In this embodiment, a print head 222 is mounted on a print head arm 226 which is pivotable about pivot point 228. The pivot point 228 is arranged at one end of the print head arm 226 while the print head 222 is arranged at the other end thereof. The print head 222 acts against a rotatable platen 234 which is provided in the tape printing apparatus 2. the print head 222 is biased in a direction towards the platen 234. The platen 234 rotates in the direction of arrow F to drive the image receiving tape 24 through the tape printing apparatus 202 as an image is printed thereon.--

Please amend the paragraph from page 10, line 29 to page 11, line 2 to read as follows:

--The nose portion 240 will now be described with reference to Figures 2a to c as well as Figures 3 and 4. The nose portion 240 comprises a wall 242 extending parallel to the plane of the image receiving tape 24. This wall 242 is effectively a continuation of one of the walls 245 of the main body 243 of the cassette 220. A window 244 is defined in this wall 242. The window 244 is positioned such that when the cassette 220 is in the position shown in Figure 2c, that is fully received in the cassette receiving bay 218, the platen 234 is on one side the window 244 and the print head 222 is on the other side thereof. The window is also sufficiently large so that the print head 222 can be biased against the platen 234 through the window 244 so that an image is printed on the image receiving tape 224 and the image receiving tape 224 is also driven through the tape printing apparatus.--

Please amend the paragraph at page 12, lines 6-17 to read as follows:

--Reference will now be made to Figures 7 and 8 which show a second embodiment, which is a modification of the embodiment shown in Figures 2a to c, 3 and 4. In the embodiment shown in Figures 7 and 8, the cassette 260 has a nose portion 262. For clarity, the bulged portion has been omitted from the arrangement shown in Figures 7 and 8. However, the embodiment shown in Figures 7 and 8 would incorporate the bulged portion discussed in relation to the previous embodiment. The nose portion 262 has, as can be clearly seen from Figure 8, a boxed-shape cross-section 264 which encloses the image receiving tape

265. As with the embodiment shown in Figures 2 to 4, the nose 262 is provided with a window 266 which permits the print head to act against the platen while an image is being printed on the image receiving tape. The box section 264 has the advantage that the risk of tape jams is considerably reduced.--

Please amend the paragraph from page 12, line 36 to page 13, line 6 to read as follows:

--Reference will now be made to Figure 5 which shows a third embodiment of the present invention. In Figure 5, the position of the print head arm 326, when closed is shown in solid lines while the position of the print head arm 326 when in the open position is shown in dotted lines. The print head arm 326 comprises a first portion 327 and a second portion 328. The print head arm portions 327 and 328 together define an L-shaped print head arm 326. The print head arm 326 is pivotable about pivot point 330 which is arranged at a corner region 331 of the L-shaped print head arm 326. The second print head arm portion 328 carries the print head 322 itself. The print head 322 is arranged to cooperate with a rotatable platen 334.--

Please amend the paragraph at page 13, lines 17-32 to read as follows:

-- When the cassette receiving bay is empty, the print head arm 326 is in the position shown in dotted lines in Figure 5. A cassette is arranged to be inserted into the cassette receiving bay in the downward direction, that is in a direction towards the plane of the page containing Figure 5. As the cassette is inserted, it engages the wedge, which can be seen in Figure 6, As the cassette is moved downwardly, the bottom edge of the cassette engages the wedge 342 at location 343 gradually moving the wedge and hence the first portion 327 of the print head arm 326 in the direction of arrow H. As the print head arm 326 is pivotably movable about pivot point 330, the second portion 328 of the print head arm 326 moves in the direction of arrow I towards the rotatable platen 334. As the second part 328 of the print head arm 326 moves towards the rotatable platen 334, the length of the spring 336 extends slightly until it reaches a maximum length when the print head arm 326 is in a position halfway between those to positions illustrated in Figure 5. Once the print head arm has passed

this halfway point, the tension in the spring 336 urges the spring to the position shown in solid lines in Figure 5 so that the print head 322 is in contact with the rotatable platen 334.--

Please amend the paragraph at page 13, lines 34-38 to read as follows:

-- In order to remove the cassette, the user moves the print head arm 326 from the position shown in solid lines in Figure 5 to the position shown in dotted lines. As the print head arm 326 moves towards the position shown in dotted lines, the wedge portion 324 acts against the cassette to push it up out of the cassette receiving bay. The print head arm 326 may be operated by turning a lever or pressing a button.--

Please amend the paragraph at page 14, lines 1-7 to read as follows:

-- Thus, the print head 322 is mounted on a print head arm 326 on which the cassette acts on, via the wedge 342, as the cassette is inserted. The spring 336 is arranged to pull the print head 322 into the printing position in which the print head 322 acts against the platen once cassette insertion has caused the print head to move a relatively short distance from the open position (shown in dotted lines). This has the advantage that the cassette itself does not have to oppose the print head force.--

Please amend the paragraph at page 15, lines 19-34 to read as follows:

-- A fourth embodiment of the invention is shown in Figures 10 to 16. The tape printer 2 according to this embodiment is generally brick shaped, and has on its upper end a tape cassette 443 inserted into a corresponding slot, the latter being shown more detailed in Figures 14a-e. A keyboard on the front left side of the tape printer 2 is schematically indicated with reference numeral 4, although the keys as such are for reasons of simplification not shown. The printing mechanism is included into the top part of the tape printer, while the batteries providing the necessary electrical energy are situated inside the lower part of the housing covered with the keyboard 4. The printed tape emerges from an outlet 426 out of the housing of the tape printer 2. A display 14 is provided above the keyboard 4, such that a user can easily see and check his or her inputted data. The cassette 443 has an additional feature (which is not provided in the tools according to the remaining embodiments of the present invention); it provides a bend of 90° in the tape before printing. This will be shown more

clearly in Figures 11-13. Hence the tape 24 emerges in the plane of the display 14 out of the outlet 426 of the tape printer 2, thus making it easier for the user to control the printed image.--

Please amend the paragraph from page 15, line 36 to page 16, line 24 to read as follows:

-- Figure 11 shows a view into the cassette 443 of the fourth embodiment. It houses a supply spool 32 of image receiving tape 24. The image receiving tape 24 is guided from the supply spool around a pin 401 extending orthogonally to the plane of the side wall of the cassette 443 on which the supply spool 32 lies. The pin 401 is located at the lower left corner of the cassette 443, and deflects the tape for 90°, such that it extends rightwards in Figure 11, after it has passed the pin 401. Additionally to the deflection performed by pin 401, the tape is downstream the pin 401 lying on an angled, triangular surface 410, which encloses an angle (in this embodiment of 45°) with the length axis of the pin 401. Consequently, the tape 24 is bent by pin 401 and surface 410 such that the image receiving tape 24 extends at the right, downstream end (which is indicated by the dotted line 470) of the angled surface 410 in the plane of the drawing. Thus, the angled surface is designed such that its left end adjacent the pin 401 is extending orthogonally to the plane of Figure 11, and that its right end 470 extends parallel to the plane of Figure 11. The right end 470 of surface 410 is located close to the left edge of a window 466 in the housing of the cassette 443. The window 466 is indicated with two parallel dotted lines and is required in order to let a print head 422 and a platen 434 interact in order to print upon the image receiving tape 24. Consequently, the window 466 has the same function as the window 244 in Figure 3 and window 266 in Figure 7. At the right end of the cassette 443 an outlet 465 is provided, through which the image receiving tape 24 emerges after it has passed the printing location at window 466. The outlet 465 is shaped similarly to the nose portion 262 shown in Figure 8. Thus, it has a box-shaped cross section enclosing the image receiving tape 24. This cross section is obtained by a bar 407 extending parallel to the plane of Figure 11, but having an appropriate distance to the adjacent bottom wall 472 (see Figure 12) of the cassette 443. A cutting mechanism (not shown) for separating the printed image receiving tape is located downstream the outlet 465.--

IN THE CLAIMS

Please cancel claims 1-7 and 13-15.

REMARKS

The specification has been amended to insert section headings to comply with the form requirements of the U.S. Patent and Trademark Office. No new matter has been introduced. An action on the merits of all claims is respectfully requested.

Respectfully submitted,

November 8, 2001

Date

For


Christopher G. Hayden
Berj A. Terzian

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APPENDIX A
MARKED UP VERSION OF SPECIFICATION

Page 1, before line 1 of text, insert

--This is a divisional of pending U.S. Serial No. 657,264, filed September 7, 2000, which is a divisional of 09/180,502 filed November 12, 1998, which is a 371 of PCT/EP97/05065, filed September 16, 1997.

Page 1, between the title and the first line of text, insert the heading

--Technical Field--.

Page 2, between lines 21 and 23, insert the heading

--Summary of the Invention--.

paragraph at page 2, lines 4-11:

In EP-A-661163 (Smith Corona), a tape printer is used in combination with a slot-in type cassette. The printhead is [privotally] pivotally fixed to the housing of the tool and interacts with a platen provided in the cassette. Since the printhead is spring biased towards the platen, it is capable of urging the cassette out of the printer, when the latches holding the cassette are released. The motor of this tape printer is located [besides] beside the cassette, but in a plane below the cassette, and is connected to the platen provided in the cassette by means of a gear train, parts of which being located below the cassette, as well.

paragraph at page 2, lines 18-20:

US 5615960 (Alps) also discloses a tape printer in which the motor is located [besides] beside the tape supply, and most parts of the gear train are located below the tape supply.

paragraph at page 3, lines 23-29:

It should be appreciated that in embodiments of the present invention, the surface against which the print head acts may be stationary at all times [whilst] while the print head

moves to cause the first and second positions to be adopted. Alternatively, the print head may be stationary [whilst] while the surface moves to cause the first and second positions to be adopted. It is also possible that both print head and the surface be movably mounted. In the preferred embodiment of the present invention, the surface is substantially stationary [whilst] while the print head is arranged to move.

paragraph at page 7, line 27:

Preferably, the moving means comprises an over [centre] center mechanism.

paragraph at page 7, line 29 to page 8, line 2:

In an embodiment of the invention, there can be provided a tape printing apparatus for print on image receiving tape comprising:

means for receiving a supply of image receiving tape;

a print head for printing an image on said image receiving tape;

a surface against which said print head co-operates to print an image on said image receiving tape, said surface having a first position in which said surface acts against the print head and a second position in which the said surface is spaced apart from said print head, said surface further having a third position intermediate said first and second positions; and

moving means arranged automatically to move said surface from said third to said first position when said surface is at the third position.

paragraph at page 8, lines 31-34:

Brief Description of the Drawing

For a better understanding of the present invention and as to how the same may be carried into effect, reference will now be made by way of example to the accompanying drawings in which:

paragraph at page 9, lines 30-37:

Description of the Preferred Embodiments

Figure 1 shows a plan view of a tape printing apparatus 2. The tape printing apparatus 2 comprises a keyboard 4. The keyboard 4 has a plurality of data entry keys such as

numbered, lettered and punctuation keys 6 for inputting data to be printed as a label and function keys 8 for editing the input data. The keyboard 4 may also have a print key 10 which is operated when it is desired that a label be printed. Additionally, an on/off key 12 is also provided for switching the tape printing apparatus on and off.

Page 10, between lines 29 and 31, insert the heading

--Detailed Description of the Preferred Embodiment--.

paragraph at page 10, lines 13-22:

A first embodiment of the present invention will now be described with reference to Figures 2a to c, 3 and 4. These Figures show the key elements present in the cassette receiving bay 218. In this embodiment, a print head 222 is mounted on a print head arm 226 which is pivotable about pivot point 228. The pivot point 228 is arranged at one end of the print head arm 226 [whilst] while the print head 222 is arranged at the other end thereof. The print head 222 acts against a rotatable platen 234 which is provided in the tape printing apparatus 2. the print head 222 is biased in a direction towards the platen 234. The platen 234 rotates in the direction of arrow F to drive the image receiving tape 24 through the tape printing apparatus 202 as an image is printed thereon.

paragraph from page 10, line 29 to page 11, line 2:

The nose portion 240 will now be described with reference to Figures 2a to c as well as Figures 3 and 4. The nose portion 240 comprises a wall 242 extending parallel to the plane of the image receiving tape 24. This wall 242 is effectively a continuation of one of the walls 245 of the main body 243 of the cassette 220. A window 244 is defined in this wall 242. The window 244 is positioned such that when

[Description of the Preferred Embodiments]

the cassette 220 is in the position shown in Figure 2c, that is fully received in the cassette receiving bay 218, the platen 234 is on one side the window 244 and the print head 222 is on the other side thereof. The window is also sufficiently large so that the print head 222 can be biased against the platen 234 through the window 244 so that an image is printed on the

paragraph at page 12, lines 6-17:

Reference will now be made to Figures 7 and 8 which show a second embodiment, which is a modification of the embodiment shown in Figures 2a to c, 3 and 4. In the embodiment shown in Figures 7 and 8, the cassette 260 has a nose portion 262. For clarity, the bulged portion has been omitted from the arrangement shown in Figures 7 and 8. However, the embodiment shown in Figures 7 and 8 would incorporate the bulged portion discussed in relation to the previous embodiment. The nose portion 262 has, as can be clearly seen from Figure 8, a boxed-shape cross-section 264 which encloses the image receiving tape 265. As with the embodiment shown in Figures 2 to 4, the nose 262 is provided with a window 266 which permits the print head to act against the platen [whilst] while an image is being printed on the image receiving tape. The box section 264 has the advantage that the risk of tape jams is considerably reduced.

paragraph from page 12, line 36 to page 13, line 6:

Reference will now be made to Figure 5 which shows a third embodiment of the present invention. In Figure 5, the position of the print head arm 326, when closed is shown in solid lines [whilst] while the position of the print head arm 326 when in the open position is shown in dotted lines. The print head arm 326 comprises a first portion 327 and a second portion 328. The print head arm portions 327 and 328 together define an L-shaped print head arm 326. The print head arm 326 is pivotable about pivot point 330 which is arranged at a corner region 331 of the L-shaped print head arm 326. The second print head arm portion 328 carries the print head 322 itself. The print head 322 is arranged to cooperate with a rotatable platen 334.

paragraph at page 13, lines 17-32:

When the cassette receiving bay is empty, the print head arm 326 is in the position shown in dotted lines in Figure 5. A cassette is arranged to be inserted into the cassette receiving bay in the downward direction, that is in a direction towards the plane of the page containing Figure 5. As the cassette is inserted, it engages the wedge, which can be seen in Figure 6, As the cassette is moved downwardly, the bottom edge of the cassette engages the wedge 342 at location 343 gradually moving the wedge and hence the first portion 327 of the

print head arm 326 in the direction of arrow H. As the print head arm 326 is pivotably movable about pivot point 330, the second portion 328 of the print head arm 326 moves in the direction of arrow I towards the rotatable platen 334. As the second part 328 of the print head arm 326 moves towards the rotatable platen 334, the length of the spring 336 extends slightly until it reaches a maximum length when the print head arm 326 is in a position halfway between those to positions illustrated in [Figure 7] Figure 5. Once the print head arm has passed this halfway point, the tension in the spring 336 urges the spring to the position shown in solid lines in [Figure 7] Figure 5 so that the print head 322 is in contact with the rotatable platen 334.

paragraph at page 13, lines 34-38:

In order to remove the cassette, the user moves the print head arm 326 from the position shown in solid lines in [Figure 7] Figure 5 to the position shown in dotted lines. As the print head arm 326 moves towards the position shown in dotted lines, the wedge portion 324 acts against the cassette to push it up out of the cassette receiving bay. The print head arm 326 may be operated by turning a lever or pressing a button.

paragraph at page 14, lines 1-7:

Thus, the print head [323] 322 is mounted on a print head arm 326 on which the cassette acts on, via the wedge 342, as the cassette is inserted. The spring 336 is arranged to pull the print head 322 into the printing position in which the print head 322 acts against the platen once cassette insertion has caused the print head to move a relatively short distance from the open position (shown in dotted lines). This has the advantage that the cassette itself does not have to oppose the print head force.

paragraph at page 15, lines 19-34:

A fourth embodiment of the invention is shown in Figures 10 to 16. The tape printer 2 according to this embodiment is generally brick shaped, and has on its upper end a tape cassette 443 inserted into a corresponding slot, the latter being shown more [detailed] detailed in Figures 14a-e. A keyboard on the front left side of the tape printer 2 is schematically indicated with reference numeral 4, although the keys as such are for reasons of

simplification not shown. The printing mechanism is included into the top part of the tape printer, while the batteries providing the necessary electrical energy are situated inside the lower part of the housing covered with the keyboard 4. The printed tape emerges from an outlet 426 out of the housing of the tape printer 2. A display 14 is provided above the keyboard 4, such that a user can easily see and check his or her inputted data. The cassette 443 has an additional feature (which is not provided in the tools according to the remaining embodiments of the present invention); it provides a bend of 90° in the tape before printing. This will be shown more clearly in Figures 11-13. Hence the tape 24 emerges in the plane of the display 14 out of the outlet 426 of the tape printer 2, thus making is easier for the user to control the printed image.

paragraph from page 15, line 36 to page 16, line 24:

Figure 11 shows a view [onto] into the cassette 443 of the fourth embodiment. It houses a supply spool 32 of image receiving tape 24. The image receiving tape 24 is guided from the supply spool around a pin 401 extending [orthogally] orthogonally to the plane of the side wall of the cassette 443 on which the supply spool 32 lies. The pin 401 is located at the lower left corner of the cassette 443, and deflects the tape for 90°, such that it extends rightwards in Figure 11, after it has passed the pin 401. Additionally to the deflection performed by pin 401, the tape is downstream the pin 401 lying on [a] an angled, triangular surface 410, which encloses an angle (in this embodiment of 45°) with the length axis of the pin 401. Consequently, the tape 24 is bent by pin 401 and surface 410 such that the image receiving tape 24 extends at the right, downstream end (which is indicated by the dotted line 470) of the angled surface 410 in the plane of the drawing. Thus, the angled surface is designed such that its left end adjacent the pin 401 is extending orthogonally to the plane of Figure 11, and that its right end 470 extends parallel to the plane of Figure 11. The right end 470 of surface 410 is located close to the left edge of a window 466 in the housing of the cassette 443. The window 466 is indicated with two parallel dotted lines and is required in order to let a print head 422 and a platen 434 interact in order to print upon the image receiving tape 24. Consequently, the window 466 has the same function as the window 244 in Figure 3 and window 266 in Figure 7. At the right end of the cassette 443 an outlet 465 is provided, through which the image receiving tape 24 emerges after it has passed the printing

location at window 466. The outlet 465 is shaped similarly to the nose portion 262 shown in Figure 8. Thus, it has a box-shaped cross section enclosing the image receiving tape 24. This cross section is obtained by a bar 407 extending parallel to the plane of Figure 11, but having an appropriate distance to the adjacent bottom wall 472 (see Figure 12) of the cassette 443. A cutting mechanism (not shown) for separating the printed image receiving tape is located downstream the outlet 465.